

## **REMARKS**

Claims 10, 14, 16, 21, 23, and 24 are amended herein. Claims 10-16 and 21-24 are pending in the captioned case. Reexamination and reconsideration of the presently claimed application are respectfully requested.

### **Objection to the Specification**

An objection was lodged against the specification for an alleged informality. Specifically, the Examiner believes there is an embedded hyperlink in the specification at page 6, line 14. Applicants respectfully disagree. The purported hyperlink is instead merely the full web address (in textual form) for the cited article. There is no embedded hyperlink or browser-executable code in the present specification. Accordingly, Applicants respectfully request removal of this objection.

### **Section 112 Rejection**

Claims 10-16 and 21-24 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response thereto and to expedite prosecution, the claims are amended in a manner believed to address the concerns expressed in the Office Action.

The present invention including present claim 10 relates to the field of dataflow graphs. As explained in the specification, e.g., pg. 3, lines 14-23, dataflow graphs represent transformation processes as nodes having input and output ports. As further explained, e.g., pg. 7, lines 15-31, a “processing thread is allocated to each respective process and the multiple processes are executed in parallel.” Certain map components include “input ports and output ports and the executing step includes reading data tokens from respective input ports and writing data tokens to respective output ports.” The deadlock management method is explained, e.g., pg. 7, line 26 – pg. 8, line 7. In this method, the data management system has ports for sending and receiving data tokens “where at least one thread is allocated to a first process and at least one thread is allocated to a second process with the first and second processes connected through a

queue via ports.” A very simple dataflow is depicted in Fig. 30, and explained in the specification, e.g., pg. 30, lines 16-24. In Fig. 30, “a queue 706 connects two processes, 702 and 710, where 702 writes tokens to queue 706 and 710 reads tokens from queue 706.” In the example of Fig. 30, queue 706 is the connector between the two ports on the respective processes, 702 and 710.

With regard to claim 21, each map component comprises “one or more processes” (Specification at pg. 7, lines 15-18). Map components are “configurable specifications of families of transformations” so that map components can “potentially encapsulate an infinite set of related maps . . .” (Specification at pg. 13, lines 4-9). Fig. 30 represents a simple case where a single process is a map component, such as 702 and 710.

In light of the claim amendments and the explanation above, Applicants believe this rejection is obviated in its entirety. Accordingly, removal of this rejection is respectfully requested.

### **Section 103 Rejection**

Claims 10-16 and 21-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,124,405 to Kakivaya et al. (hereinafter “Kakivaya”) in view of U.S. Patent No. 5,999,729 to Tabloski (hereinafter “Tabloski”). It is believed the amendments herein more clearly identify the differences between the present invention and that of Kakivaya and Tabloski, both singularly and in combination.

As discussed in the previous response, while Kakivaya does concern the class dependency loops, Kakivaya does not build a “wait graph” (Kakivaya at col. 1, lines 57-65). Tabloski describes a deadlock detection mechanism, but Tabloski does not monitor deadlock on a thread level. In Tabloski, the execution objects communicate blockage to execution control object. In the present deadlock monitoring method, the monitoring thread watches the data queues and does not require communication from the operators. Claim 21 of the present invention explains how a data queue may be expanded as necessary based on information collected in the wait graph.

Tabloski does not use data queues as part of its deadlock detection mechanism or deadlock management system.

For at least the reasons stated above, Applicants believe present claims 10-16 and 21-24 are patentably distinct over Kakivaya and Tabloski. Accordingly, removal of this rejection is respectfully requested.

### **CONCLUSION**

The present amendment and response is believed to be a complete response to the issues raised in the Office Action mailed February 10, 2009. In view of the amendments and remarks herein, Applicants assert pending claims 10-16 and 21-24 are in condition for allowance. If the Examiner has any questions, comments, or suggestions, the undersigned attorney earnestly requests a telephone conference.

No fees are required for filing this amendment; however, the Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Daffer McDaniel, LLP Deposit Account No. 50-3268.

Respectfully submitted,

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